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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,621	06/28/2001	Tae-Yong Kim	8836-135 (IB10153-US)	6149

22150 7590 08/09/2005

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EXAMINER	
CATHEY II, PATRICK H	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,621	KIM, TAE-YONG	
	Examiner	Art Unit	
	Patrick H. Cathey II	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) 6,16 and 23 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5,7-15,17-22,24 and 25 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/22/2005 has been entered.

Response to Arguments

Applicant's arguments with respect to claim's 1, 12 and 19 have been considered but are moot in view of the new ground(s) of rejection.

The speed parameter does in fact adjust the transmission rate. This rate may be reduced to the average rate or increased to the max, which is the peak (Column 10, line 57 to Column 11, line 15). This follows the limitations that are set forth in the claims stating the reduction of the peak transmission rate to a sustainable transmission rate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim's 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ribas-Corbera (US 6,535,251) in view of Tsai (US 6,529,552) and in further view of Dieterich (US 6,100,940).

As for Claim 1, Ribas-Corbera teaches using a video encoder for encoding data (57) and an encoding buffer for storing the encoded video data (54). The encoder rate controller is for estimating the number of bits quantized from a target quantization parameter during a frame of video data corresponding to the discrete cosine transform (DCT) coefficients of the frame (56). He also teaches a channel rate controller for generating parameters for smoothing and bandwidth renegotiation corresponding to the number of bit generated from the encoder rate controller (68) (Column 1, lines 16-19; Column 3, line 56 to Column 4, line 3; Column 9, lines 47-51; also see figure 5), where smoothing includes reducing a peak transmission rate to a sustainable transmission rate and smoothing a transmission rate to the sustainable transmission rate (Column 10, line 57 to Column 11, line 15).

Although Ribas-Corbera fails to teach a network for generating negotiated parameters corresponding to the parameters generated from the channel rate controller, and a counter for transmitting the video data stored in the encoder buffer through the network, Tsai does (Column 1, line 66 to Column 2, line 16). Since it is well known in encoding video data to route the data through a network it would have been obvious to one of ordinary skill to use the structured type of network to transmit the data.

Although the Ribas-Corbera and Tsai references fail to teach the quantization parameters based on slice level, Dieterich does (Column 14, lines 40-47). Since

Dieterich shows that the parameters can be based on GOP, frame, strip or slice it would have been obvious to on of ordinary skill to adjust based on slice. Further doing so would allow for more frequent checks on target variation.

As for Claim's 2-5 and 7-11, Ribas-Corbera teaches a channel rate controller generating the maximum number of bits capable of being generated and stored during the frame period where the channel rate controller determines an actual bit rate of the encoded video data, and where the channel rate controller is filled with bits to protect an underflow of the encoder buffer. He also teaches a system where the parameters for smoothing and bandwidth renegotiation generated from the channel rate controller comprise of peak rate, sustainable rate and maximum burst length where the peak rate is smoothed to the sustainable rate. The encoder rate controller generates an actual number of bits quantized by the target quantization parameter during the frame corresponding to the maximum number of bits generated from the channel rate controller. He also teaches a system where the counter is able to increase the number of bits and decrease the sustainable bits during the frame period. He also teaches a system where when the counter is full, the counter discards the data transferred from the encoder buffer, and also uses a network comprising of an asynchronous transfer mode (ATM) as well as having the capabilities of encoding video data that comprises a variable bit rate MPEG video data (Column 1, lines 16-19 and lines 46-57; Column 2, lines 29-50; Column 3, line 56 to Column, 4 line 3; Column 4, line 54 to Column 5, line 15; Column 7, lines 10-26).

Although Ribas-Corbera fails to teach the use of a network, Tsai does (Column 1, line 66 to Column 2, line 16). Since it is well known in encoding video data to route the data through a network it would have been obvious to one of ordinary skill to use the structured type of network to transmit the data.

Claim's 12,13, 15, 17-20, 22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ribas-Corbera in view of Tsai and in further view of Fert (US 6,205,174).

As for claim 12, many of the limitations have been addressed in the above rejections. Ribas-Corbera teaches the encoded frames of video data and the encoded information associated. He also estimates a maximum number of bits capable of being generated (Column 3, line 56 to Column 4, line 3; Column 4, lines 54-67).

Although Ribas-Corbera fails to teach the dynamically negotiating with a network to generate traffic parameters for smoothed traffic and required bandwidth, Tsai does (Column 1, line 66 to Column 2, line 16). Since it is well known in encoding video data to route the data through a network it would have been obvious to one of ordinary skill to use the structured type of network to transmit the data.

Although Ribas-Corbera and Tsai fail to teach the estimation of a number of bits quantized from a target quantization parameter during a given frame of the video data based on encoding information of the given frame, as well as computing a target bit rate using the estimated number of bits quantized with the target quantization parameters and the estimated maximum number of bits, and generating quantization parameters to

control the actual encoding rate so that a number of actual bits generated does not exceed the target bit rate, Fert does (Column 12, lines 33-42). It would have been obvious to one of ordinary skill to estimate a number of bits quantized and use them for target quantization parameters.

As for claim's 13, 15, 17 and 18, Bibas-Corbera teaches a method where the encoding information comprises discrete cosine transformation (DCT) coefficients, a method where the step of generating quantization parameters to control the actual encoding rate comprises generating quantization parameters based on slice level and a method where the traffic parameters comprise peak rate, sustainable rate and maximum burst length comprising the step of smoothing the peak rate to the sustainable rate. He also teaches a method comprising the step of protecting against an underflow in an encoder buffer by stuffing bits and a method comprising the step of generating the actual numbers of bits quantized by the target quantization parameter during the given frame corresponding to the estimated maximum number of bits (Column 4, line 54-67; Column 5, lines 1-15; Column 7, lines 10-26; Column 9, lines 47-51).

As for Claim's 19, 20, 22, 24 and 25, most of the limitations of these claims have been noted in the above rejection of Claim's 12, 13 and 15-18. Bibas-Corbera teaches a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for transmission of variable bit rate MPEG video traffic with consistent quality (Column 4, lines 13-20).

Claim's 14 are 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ribas-Corbera in view of Tsai and in further view of Fert and Dieterich (US 6,100,940).

As previously shown above, Dieterich shows that generating quantization parameters can be based on the slice level (Column 14, lines 40-47).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick H. Cathey II whose telephone number is (571)272-7326. The examiner can normally be reached on M-F 7:30 to 5:00 (Every other friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick H. Cathey II
Examiner
Art Unit 2613

PHC

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